European Labor Markets

ABSTRACT: Labour taxes and subsidies, collective wage bargaining, and employment protection legislation affect labour market outcomes in Europe more strongly than in other advanced countries. This article outlines theoretical approaches to their motivation and consequences and reviews empirical insights from comparative cross-country studies of how employment, unemployment, and wage dynamics are shaped by the interaction between institutions, macroeconomic developments, and structural features.

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European labour markets, especially those of Continental countries, are characterized by more unionized wage setting and more stringent regulation of employment relationships than those of other OECD countries. Within that group of advanced countries, their unemployment rates used to be relatively low, and became very high. Around 1970, the unemployment rate was approximately 3.1% in the OECD aggregate and 5% in the US, but the unemployment rate hardly exceeded 4% in any European country. In the aggregate of 11 core European Union countries that later adopted the euro at its inception, unemployment was only 2.2% in 1970. It then rose rapidly, exceeding 10% in 1984 and hovering around 12% in the second half of the 1990s, while both the US and the OECD aggregate unemployment rates fluctuated in the 4-9% range.

The wide variety of labour market developments over the last quarter of the twentieth century has motivated extensive modelling efforts and comparative empirical studies of institutional features' motivation and effects. This article reviews the roles of institutions, shocks, and structural change in shaping aggregate and disaggregate labour market outcomes.

To illustrate the spirit of more general approaches to the relevant issues, it is useful to focus initially on the simplest models and the best understood labour market institutions (Prescott, 2004). Consider inverse demand and supply functions

$$w^d = a(l\,),\ w^s = s(l\,), \tag{1}$$

where l denotes log employment and w^s and w^d denote log wage rates. The wage w^* and employment l^* that equate supply and demand satisfy the condition

$$s(l^*)=a(l^*)=w^* \tag{2}$$

in static competitive equilibrium. As the simplest example of how institutions can change this outcome, consider a labour income tax that, inserting a wedge τ between employers' labour costs and workers' take home pay, changes the equilibrium condition to

$$s(\underline{l})=a(\underline{l})-\tau \quad (3)$$

and lowers employment by about

$$\underline{l}-l^{*}\approx-\tau/(\eta+\varepsilon) \quad (4)$$

where $s'(l)=\varepsilon\geq 0$ and $a'(l)=-\eta$, $0<\eta<1$. It is also simple to characterize formally the effects of binding legal or contractual minimum wage levels. If the wage is $\underline{w}>w^{*}$, the employment levels corresponding to $\underline{w}$ on the supply and demand curves are defined by $s(L)=\underline{w}$ and $a(\underline{l})=\underline{w}$, and differ by the number

$$L-\underline{l}\approx(\underline{w}-w^{*})(\varepsilon+\eta)/(\varepsilon\eta) \quad (5)$$

of unemployed workers, who would be willing to work at the going wage but cannot obtain employment.

From this simple perspective it is obvious that differences in taxation and wage floors may explain cross-country differences in employment and unemployment. Qualitatively similar insights can be derived in the context of more complex and realistic models of unemployment, and can be applied to other institutions. When unemployment is due to matching frictions, efficiency wages, and other imperfect allocation mechanisms, taxes and wage rigidities can affect search efforts and equilibrium employment and unemployment, which are affected in turn by the market's structure (such as the extent of mismatch between workers' qualifications and vacancies) and by other institutional features (such as the scope and efficiency of employment agencies). In both competitive and frictional models of the labour market, benefits paid to out-of-work individuals can affect labour supply and search effort, and there can be similar effects from less visible policy aspects, such as the availability of public-sector employment opportunities at favourable wage/effort ratios (Algan, Cahuc, and Zylberberg, 2002).

At the same time as it offers obvious explanations for labour market outcomes, institutional variation raises the less obvious issues of why institutions should be as different across countries as they are observed to be, and of how their configuration and impact may depend on structural labour market features.

The relevance of distributional issues and of market imperfections can explain some of labour market institutions' heterogeneity. The equilibrium condition (1) efficiently equates employed labour's marginal productivity to its non-employment opportunity cost, and distorting this outcome reduces the welfare of a perfectly competitive economy's representative individual. If workers disregard non-labour income, however, their total surplus can be increased by trading lower employment off higher pay along downward-sloping labour demand curves such as (2). It is maximized when the wage exceeds the marginal opportunity cost of employment by a monopolistic mark-up factor, and employment is set at a level $\underline{l}$ such that

$$a(\underline{l})-s(\underline{l})=\log[1/(1-\eta)]\approx\eta. \quad (6)$$

All workers' welfare can be increased if the higher wages earned by those who are employed more than compensate for the labour income lost by those who would be

employed at the competitive wage. Such compensation may take place within families, or over individual lifetimes, and can also be explicit if the revenue raised by employment taxes is spent subsidizing non-employed individuals.

Institutions that decrease employment and increase labour costs can be rationalized recognizing that they affect not only the amount of production but also its distribution across heterogeneous individuals, and that markets (especially financial markets) are not perfect in real-life economies. Higher wages and lower employment can benefit workers who have negligible non-labour income, and households' limited access to formal financial markets can rationalize collectively administered risk-sharing schemes (Agell, 2002). In European countries, legislation meant to endow workers with some bargaining power and to insure them against health, unemployment, and old-age hazards was introduced at times of actual or feared social unrest, in Bismarck's industrializing Germany or in Lord Beveridge's post-War United Kingdom. In principle, it can be efficient to try and provide insurance through mandatory government schemes when information and legal enforcement problems make it difficult for private markets to do so. But public schemes are not immune from such problems, and tend to reduce employment as, for example, recipients of unemployment subsidies reduce work effort. Such efficiency losses are more easily affordable by richer societies, and Europe's fast and stable post-War growth was unsurprisingly accompanied by development of increasingly extensive legislation and co-decision powers by unions. By the early 1970s, the institutional structure of labour markets was distinctively different not only across the US and Europe as a whole, but also across countries within Europe, where labour market policies play different roles in different Welfare State models (Bertola et al., 2001). In Nordic countries, a tradition of full employment and universal welfare is based on generous unemployment benefits and a very important role for active labour market policies (including job creation in the public sector). The Bismarckian model of continental countries such as France and Germany features centralized wage determination and stringent employment protection legislation, and contributory pension, health, and unemployment insurance programs. The Beveridgian model of the United Kingdom and other Anglo-Saxon countries features social assistance safety financed by general taxation and comparatively light regulation of wage determination and employment relationships.

Even though relief from the need to work should in general reduce employment, until the 1970s, and even in the aftermath of the late 1960s period of worker unrest, increasingly generous pro-worker institutions coexisted in Europe with low unemployment rates; much lower, in fact, than in the comparatively unregulated United States. The first oil shock and the following decades of slower growth saw the inception and persistence of high unemployment in most European countries, and increasing attention to the effect of institutions on labour market performance. If wages are pre-set, shocks can cause employment and unemployment fluctuations, the size and persistence of which depends on the extent of ex post wage flexibility and on the character of wage bargaining. Nominal shocks are a more relevant source of real wage misalignments and

unemployment in labour markets with more pervasive and longer-term collective wage contracts. Conversely, real wages react more promptly to productivity shocks or growth slowdowns if bargaining parties are in a better position to take into account their employment implications. Reactions to country-wide shocks are quicker, and such shocks' unemployment consequences less severe, when wage bargaining is more centralized and better coordinated across industries (Calmfors and Driffill, 1988).

This can explain why unemployment began to increase, more or less sharply, when in the 1970s European countries were hit by oil shocks and other macroeconomic developments that reduced the amount of labour demanded at any given wage. Inflation and output dynamics subsequently appear to drive European unemployment fluctuations around a natural level that, after having raised sharply until the early 1980s, has remained essentially flat for some 20 years (Blanchard, 2006). The prolonged upward trend and the resilience of high unemployment levels naturally draw attention to non-cyclical, structural aspects of labour market dynamics. Wage floors can prevent underbidding by the unemployed of equation (5), but it is difficult for that static relationship to explain why, in the absence of institutional changes that would further increase unions' wage-setting power, unemployment remained high in the aftermath of the 1970s crises.

A more suitable dynamic perspective is offered by models where labour demand shocks can permanently affect the link between wages and outside options, for example because job losers no longer have a say in wage determination, or because replacement of employed workers would entail large turnover costs (Lindbeck and Snower, 1988). The persistence of employment and unemployment dynamics, however, is in fact influenced not only by limited wage-setting flexibility, but also by regulatory constraints on hiring and firing. In European countries, employment protection legislation (EPL) typically requires that termination of individual regular employment contracts be motivated and subject to court appeal, and that collective dismissals be conditional on administrative procedures involving formal negotiations with workers' organisations and with local or national authorities.

Such provisions do have the intended effect of 'protecting' jobs at times of declining labour demand, when firing costs smooth out job losses and reduce downward wage pressure. Just because such a situation is costly for employers, however, it is optimal for them to refrain from hiring in upturns, so as to reduce the desirability of labour shedding in downturns. In terms of simple demand-and-supply relationships such as those introduced above, the marginal productivity of labour should be lower than the wage when employment is declining and firing a marginal worker entails firing costs as well as wage-cost savings, but it should symmetrically be higher than the wage when employment is increasing, and the marginal worker's costs include expected future firing costs as well as the current wage. Thus, the implications of EPL are similar to those of labour taxes for expanding firms, and to those of employment subsidies for downsizing firms. If employment fluctuations are efficient in laissez faire, EPL obviously reduces production and profits. Unlike labour taxes, however, it does do not do so by

reducing employment on average (Bentolila and Bertola, 1990), because its contrasting effects on employers' propensity to hire and fire reduce employment volatility but affect its average level ambiguously. Empirically, in fact, there is no convincing evidence of any relationship between EPL and employment or unemployment level. As discussed in some more detail below, correlations have to be treated with caution in this context, but more stringent EPL is associated with more stable aggregate employment paths and with longer unemployment durations within the pool of unemployed workers (Bertola, 1999). There is also some evidence that EPL affects the demographic composition of employment and unemployment – as it should in theory, since it reduces job finding rates for young job market entrants and female workers with intermittent labour force participation at the same time as it reduces job-loss rates for mature workers.

Another important related difference across labour markets pertains to the extent and character of wage inequality. Earnings are typically less dispersed in Europe than in other advanced countries. The extent of underlying heterogeneity in workers' characteristics is an important determinant of earnings dispersion, but institutional wage-setting constraints also appear very relevant, both theoretically and empirically. While centralised bargaining may be better able to coordinate reactions to aggregate shocks, it tends to result in less detailed, more homogenous wage structures across firms, sectors, regions, individuals. Similar wages for heterogeneous workers imply divergence of employment outcomes, for example across demographic groups (Kahn, 2000) and across regions in Italy, Germany, Spain, where the uniformity of centrally bargained wages (and of other national institutions) tends to lower employment where labour is less productive. Empirically, relative wage variation appears to be heavily constrained in the same countries where EPL is most stringent (Bertola and Rogerson, 1995). This is unsurprising, because quantitative firing restrictions could hardly be binding if, in the face of negative labour demand shocks, wages could fall so as to make stable employment profitable, or to induce voluntary quits. Across countries, the combination of wage and quantity rigidities indeed appears to protect employed workers from labour income volatility, as individuals enjoy more stable wages and longer tenure lengths.

At the aggregate level, the role of institution in shaping heterogeneous dynamics across labour markets is not as immediately apparent. Institutions vary widely across countries but, within each country, they are much more stable than unemployment, wage inequality and other labour market outcome variables. As discussed above, however, wage setting institutions can shape an economy's reaction to aggregate shocks. More generally, the same dynamic developments can produce very different employment and wage outcomes in countries with different (albeit stable) institutions. This can explain why, in the 1970s and 1980s, countries with more extensively regulated labour markets experienced more pronounced unemployment increases in the aftermath of similar productivity, inflation, and wage shocks (Blanchard and Wolfers, 2000). Empirically, in fact, the forces that interact with labour market institutions in driving dynamic trajectories can be almost equally well represented by period-specific dummy variables

rather than by observable macroeconomic variables, which tend to behave rather similarly over time across industrialized countries. Thus, the evidence can be consistent with a role for common structural trends rather than for country-specific shocks.

For example, the relationship between country-specific labour market institutions and unemployment and wage dispersion dynamics, can be interpreted in the light of skill-biased technological progress trends, or of increasing opportunities for advanced countries to import unskilled-labour-intensive goods and export skill-intensive ones. Over the last three decades of the twentieth century unemployment displayed a trend increase in Continental European countries but remained trend-less in the US and other Anglo-Saxon countries, while earnings inequality remained stable (or even declined) in the former group of countries but trended upward in the latter. If technological progress or international trade increase laissez faire wage inequality, they also increase the relevance of wage floors: if in European countries low wages cannot decline, employment of unskilled workers must decline (Krugman, 1994). Similar insights into the changing implications of unchanging institutions can be drawn considering other structural aspects. More intense product market competition, as implied by Europe's economic integration process and by more general globalization trends, increases the elasticity of labour demand. In the context of the simple example above, a smaller η implies larger employment losses from any give tax wedge in eq.(4), and higher unemployment from any given wage floor in eq.(5). In more complex dynamic models, if reallocation towards higher-paying jobs is costly then institutions that tend to prevent wage inequality and restrict mobility have sharper implications for employment and unemployment when more volatile shocks affect labour demand (Ljungqvist and Sargent, 1998).

Structural change can magnify the unemployment and employment effects of institutions meant to redistribute income and remedy financial market imperfection, or can make them redundant (for example, because financial market development makes labour income fluctuations less problematic). Then, institutions should be reformed. In the simple formal framework above, the same smaller η that amplifies the negative employment implications of given institutions also calls for a smaller mark-up in eq.(6). And, in reality, policy frameworks introduced in the 1990s, such as those recommended by the OECD Jobs Study and by the European Union's Lisbon Strategy, deemphasize income support for job seekers and job losers in favour of job creation spurred by wage and employment flexibility, and the role of training and other active labour market policies aimed at bringing workers' productivity in line with wage aspirations.

Reforms are at least partly motivated by better theoretical and empirical understanding of labour market institutions' effects. But while it is in principle obvious that institutional interference can be responsible for high unemployment and low employment, just because such effects depends on potentially heterogeneous structural parameters it is hard to assess their impact in data where many relevant confounding factors cannot be controlled. Simple correlation can be very misleading. For example, a negative cross-country correlation between EPL and employment rates is fully

accounted for by low female employment-population ratios in Southern Europe (Nickell, 1997), while effects on prime-age male employment rates tend to be positive. Both policies and outcomes can jointly respond to underlying cultural differences in this and other cases, and it is difficult to obtain reliable estimates from cross-sectional relationships between institutions and outcomes (Baker et al, 2005). More articulate and robust insights may be obtained from specifications where time-series variation and interactions play important roles (Bassanini and Duval, 2006). As the time dimension of available data increases, however, it will be increasingly important when interpreting time-series evidence to focus on the economics and politics of reform processes rather than of institutions at each point in time (Saint Paul, 2000), and to be aware of plausible channels of institutional endogeneity. If shocks or structural changes that make job loss more or less likely or painful trigger changes in the generosity of unemployment insurance or in the stringency of employment protection legislation, for example, the correlation between such institutions and employment performances may be largely spurious. The wide and changing variety of labour market policies across countries offers opportunities to try and disentangle their effects in increasingly available disaggregated data, at the same time as it makes it necessary to take into account the many important and related respects, besides labour market structure, in which countries differ.

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See also: European Monetary Union, Globalisation and the welfare state, Skill-Biased Technical Change, Philips curve, Unemployment.

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